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<110> Human Genome Sciences, Inc.

<120> Human Tumor Necrosis Factor Receptor TR13 and TR14

<130> PF511P1

<140> Unassigned

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<150> 60/261,960

<151> 2001-01-17

<150> 09/618,570

<151> 2000-07-14

<150> 60/144,087

<151> 1999-07-16

<150> 60/149,450

<151> 1999-07-18

<150> 60/149,712

<151> 1999-08-20

<150> 60/153,089

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<170> PatentIn Ver. 2.0

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Leu Pro Leu Gln Thr Trp His Val Cys Arg Gln Ala Gly Leu Leu Phe
25 30 35 40ctg caa act ttg ccc agc aac tct tat tca aat aaa gga gaa act tct 198
Leu Gln Thr Leu Pro Ser Asn Ser Tyr Ser Asn Lys Gly Glu Thr Ser
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Cys Asn Val Arg Pro Ala Cys Thr Asp Lys Asp Tyr Phe Tyr Thr His		
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Thr Ala Cys Asp Ala Asn Gly Glu Thr Gln Leu Met Tyr Lys Trp Ala		
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Lys Pro Lys Ile Cys Ser Glu Asp Leu Glu Gly Ala Val Lys Leu Pro		
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Asn Gly Ser Asp Cys Thr Arg Cys Pro Ala Gly Thr Glu Pro Ala Val		
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Ser Val Met Ala Asp Thr Glu Asn Lys Glu Val Ala Arg Ile Thr Phe		
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Val Phe Glu Thr Leu Cys Ser Val Asn Cys Glu Leu Tyr Phe Met Val		
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Gly Val Asn Ser Arg Thr Asn Thr Pro Val Glu Thr Trp Lys Gly Ser		
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Lys Gly Lys Gln Ser Tyr Thr Tyr Ile Ile Glu Glu Asn Thr Thr Thr		
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Val	Met	Asn	Gly	Val	Ala	Ser	Tyr	Cys	Arg	Pro	Cys	Ala	Leu	Glu	Ala	
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Asp	Arg	Asp	Ser	Gly	Thr	Cys	His	Ser	Cys	Pro	Pro	Asn	Thr	Ile	Leu	
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Phe	Ser	Arg	Asn	Thr	Pro	Thr	Arg	Thr	Phe	Asn	Tyr	Asn	Phe	Ser	Ala	
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ttg	gca	aac	acc	gtc	act	ctt	gtc	ggg	cca	aca	ttc	act	tcc	aaa		1350
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Gly	Arg	Lys	Met	Ser	Val	Cys	Thr	Asp	Asn	Val	Thr	Asp	Leu	Arg	Ile	
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cct	gag	ggg	gag	ttc	tcc	aaa	tct	atc	aca	gcc	tac	gtc	tgc			1494
Pro	Glu	Gly	Glu	Ser	Gly	Phe	Ser	Lys	Ser	Ile	Thr	Ala	Tyr	Val	Cys	
						475			480			485				
cag	gca	gtc	atc	atc	ccc	cca	gag	gtg	aca	ggc	tac	aag	gcc	ggg	gtt	1542
Gln	Ala	Val	Ile	Ile	Pro	Pro	Glu	Val	Thr	Gly	Tyr	Lys	Ala	Gly	Val	
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tcc	tca	cag	cct	gtc	agc	ctt	gtc	gat	cgt	ctt	att	ggg	gtg	aca	aca	1590
Ser	Ser	Gln	Pro	Val	Ser	Leu	Ala	Asp	Arg	Ile	Gly	Val	Thr	Thr		
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Asp	Met	Thr	Leu	Asp	Gly	Ile	Thr	Ser	Pro	Ala	Glu	Leu	Phe	His	Leu	
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Cys Ser Asp Gly Thr Cys Asp Gly Cys Asn Phe His Phe Leu Trp Glu
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745 750

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2554

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Tyr Ser Asn Lys Gly Glu Thr Ser Cys His Gln Cys Asp Pro Asp Lys
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Tyr Ser Glu Lys Gly Ser Ser Cys Asn Val Arg Pro Ala Cys Thr
65 70 75 80
Asp Lys Asp Tyr Phe Tyr Thr His Thr Ala Cys Asp Ala Asn Gly Glu
85 90 95
Thr Gln Leu Met Tyr Lys Trp Ala Lys Pro Lys Ile Cys Ser Glu Asp
100 105 110
Leu Glu Gly Ala Val Lys Leu Pro Ala Ser Gly Val Lys Thr His Cys
115 120 125
Pro Pro Cys Asn Pro Gly Phe Phe Lys Thr Asn Asn Ser Thr Cys Gln
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Pro Cys Pro Tyr Gly Ser Tyr Ser Asn Gly Ser Asp Cys Thr Arg Cys
145 150 155 160
Pro Ala Gly Thr Glu Pro Ala Val Gly Phe Glu Tyr Lys Trp Trp Asn
165 170 175
Thr Leu Pro Thr Asn Met Glu Thr Thr Val Leu Ser Gly Ile Asn Phe
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Glu Tyr Lys Gly Met Thr Gly Trp Glu Val Ala Gly Asp His Ile Tyr
195 200 205
Thr Ala Ala Gly Ala Ser Asp Asn Asp Phe Met Ile Leu Thr Leu Val
210 215 220
Val Pro Gly Phe Arg Pro Pro Gln Ser Val Met Ala Asp Thr Glu Asn
225 230 235 240
Lys Glu Val Ala Arg Ile Thr Phe Val Phe Glu Thr Leu Cys Ser Val
245 250 255

Asn Cys Glu Leu Tyr Phe Met Val Gly Val Asn Ser Arg Thr Asn Thr	260	265	270
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Thr Thr Phe His Glu Ala Ser Arg Lys Tyr Thr Asn Asp Val Ala Lys	305	310	315
Ile Tyr Ser Ile Asn Val Thr Asn Val Met Asn Gly Val Ala Ser Tyr	325	330	335
Cys Arg Pro Cys Ala Leu Glu Ala Ser Asp Val Gly Ser Ser Cys Thr	340	345	350
Ser Cys Pro Ala Gly Tyr Tyr Ile Asp Arg Asp Ser Gly Thr Cys His	355	360	365
Ser Cys Pro Pro Asn Thr Ile Leu Lys Ala His Gln Pro Tyr Gly Val	370	375	380
Gln Ala Cys Val Pro Cys Gly Pro Gly Thr Lys Asn Asn Lys Ile His	385	390	395
Ser Leu Cys Tyr Asn Asp Cys Thr Phe Ser Arg Asn Thr Pro Thr Arg	405	410	415
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Gly Gly Pro Ser Phe Thr Ser Lys Gly Leu Lys Tyr Phe His His Phe	435	440	445
Thr Leu Ser Leu Cys Gly Asn Gln Gly Arg Lys Met Ser Val Cys Thr	450	455	460
Asp Asn Val Thr Asp Leu Arg Ile Pro Glu Gly Glu Ser Gly Phe Ser	465	470	475
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Val Thr Gly Tyr Lys Ala Gly Val Ser Ser Gln Pro Val Ser Leu Ala	500	505	510
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Ser Pro Ala Glu Leu Phe His Leu Glu Ser Leu Gly Ile Pro Asp Val	530	535	540
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Arg Ser Thr Thr Ile Arg Val Arg Cys Ser Pro Gln Lys Thr Val Pro	565	570	575

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 610 615 620
 Gln Lys Thr Thr Tyr Val Trp Arg Glu Pro Lys Leu Cys Ser Gly Gly
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 645 650 655
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 Lys Tyr Ser Lys Leu Val Met Asn Ala Thr Leu Lys Asp Cys Asp Leu
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 Pro Ala Ala Asp Ser Cys Ala Ile Met Glu Gly Glu Asp Val Glu Asp
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Gly Asn Gly Met Val Ser Arg Cys Ser Arg Ser Gln Asn Thr Val Cys
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Cys Lys Pro Cys Thr Trp Cys Asn Leu Arg Ser Gly Ser Glu Arg Lys
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Pro Pro Gly His Phe Ser Pro Gly Asp Asn Gln Ala Cys Lys Pro Trp
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Gln Glu Thr Gln Gly Pro Pro Ala Arg Pro Ile Thr Val Gln Pro Thr
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195 200 205

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ggctatgtt gtttatgtt ctctgcacaaatttcatatttggcaataaa cagaaatata 3129
tccaaaaaaaaaaaaaaa tntarmssng sgnatdatgg attgccaaga aaatgagtagc 3189
tgggaccaat ggggacgggtg tgcacactgc caacgggttg gtccctggaca ggagctatcc 3249
aaggattgtt gttatggaga ggggtggagat gcctactgc cagcctgccc tcctcgcagt 3309
acaaaaggca gctggggccca ccacaaatgt cagagttgc tcacactgtgc tgcatcaat 3369
cgtgttcaga aggtcaactg cacagctacc tctaattgtgc tctgtgggat ctgtttgccc 3429
aggttctacc gaaagacacg cattggaggc ctgcaggacc aagagtgcac cccgtgcacg 3489
aagcagaccc ccacactgtc ggttcaatgt gcctccagt tgagcttagt ggaggcagat 3549
gcacccacag tgccccctca ggaggccaca cttgttgac tggtagccatgc cctgcttagt 3609
gtgttaccc tgcccttcctt gggctcttc ttccctact gcaagcagtttcttcaacaga 3669
cattggccaggc gtggagggtt gctcagttt gaggctgata aaacagcaaa ggaggaaatct 3729
ctttcccccc tgccacccag caaggagacc agtgctgagt cccaaatcttc ttggggccct 3789
ggcagccctt cccagtttgc tctctggac tctgttcctttaaccacaaca gcagcagggg 3849
cctgaaatgt ga 3861

<210> 5
<211> 226
<212> PRT
<213> Homo sapiens

<400> 5
Met Ser Thr Gly Thr Asn Gly Asp Gly Val Ser Pro Ala Asn Gly Val
1 5 10 15

Val Leu Asp Arg Ser Tyr Pro Arg Ile Val Val Met Glu Arg Val Glu
20 25 30

Met Pro Thr Ala Gln Pro Ala Leu Leu Ala Val Gln Lys Gln Leu Gly

35	40	45
Pro Pro Gln Met Cys Arg Val Ala Cys Thr Cys Ala Val Ile Asn Arg		
50	55	60
Val Gln Lys Val Asn Cys Thr Pro Thr Ser Asn Ala Val Cys Gly Asp		
65	70	75
Cys Leu Pro Arg Phe Tyr Arg Lys Thr Arg Ile Gly Gly Leu Gln Asp		
85	90	95
Gln Glu Cys Ile Pro Cys Thr Lys Gln Thr Pro Thr Ser Glu Val Gln		
100	105	110
Cys Ala Phe Gln Leu Ser Leu Val Glu Ala Asp Ala Pro Thr Val Pro		
115	120	125
Pro Gln Glu Ala Thr Leu Val Ala Leu Val Ser Ser Leu Leu Val Val		
130	135	140
Phe Thr Leu Ala Phe Leu Gly Leu Phe Phe Leu Tyr Cys Lys Gln Phe		
145	150	155
Phe Asn Arg His Cys Gln Arg Gly Gly Leu Leu Gln Phe Glu Ala Asp		
165	170	175
Lys Thr Ala Lys Glu Glu Ser Leu Phe Pro Val Pro Pro Ser Lys Glu		
180	185	190
Thr Ser Ala Glu Ser Gln Val Ser Trp Ala Pro Gly Ser Leu Ala Gln		
195	200	205
Leu Phe Ser Leu Asp Ser Val Pro Ile Pro Gln Gln Gln Gly Pro		
210	215	220
Glu Met		
225		
<210> 6		
<211> 461		
<212> PRT		
<213> Homo sapiens		
<400> 6		
Met Ala Pro Val Ala Val Trp Ala Ala Leu Ala Val Gly Leu Glu Leu		
1	5	10
15		
Trp Ala Ala Ala His Ala Leu Pro Ala Gln Val Ala Phe Thr Pro Tyr		
20	25	30
Ala Pro Glu Pro Gly Ser Thr Cys Arg Leu Arg Glu Tyr Tyr Asp Gln		
35	40	45
Thr Ala Gln Met Cys Cys Ser Lys Cys Ser Pro Gly Gln His Ala Lys		
50	55	60
Val Phe Cys Thr Lys Thr Ser Asp Thr Val Cys Asp Ser Cys Glu Asp		
65	70	75
80		

Ser Thr Tyr Thr Gln Leu Trp Asn Trp Val Pro Glu Cys Leu Ser Cys
 85 90 95
 Gly Ser Arg Cys Ser Ser Asp Gln Val Glu Thr Gln Ala Cys Thr Arg
 100 105 110
 Glu Gln Asn Arg Ile Cys Thr Cys Arg Pro Gly Trp Tyr Cys Ala Leu
 115 120 125
 Ser Lys Gln Glu Gly Cys Arg Leu Cys Ala Pro Leu Arg Lys Cys Arg
 130 135 140
 Pro Gly Phe Gly Val Ala Arg Pro Gly Thr Glu Thr Ser Asp Val Val
 145 150 155 160
 Cys Lys Pro Cys Ala Pro Gly Thr Phe Ser Asn Thr Thr Ser Ser Thr
 165 170 175
 Asp Ile Cys Arg Pro His Gln Ile Cys Asn Val Val Ala Ile Pro Gly
 180 185 190
 Asn Ala Ser Arg Asp Ala Val Cys Thr Ser Thr Ser Pro Thr Arg Ser
 195 200 205
 Met Ala Pro Gly Ala Val His Leu Pro Gln Pro Val Ser Thr Arg Ser
 210 215 220
 Gln His Thr Gln Pro Thr Pro Glu Pro Ser Thr Ala Pro Ser Thr Ser
 225 230 235 240
 Phe Leu Leu Pro Met Gly Pro Ser Pro Pro Ala Glu Gly Ser Thr Gly
 245 250 255
 Asp Phe Ala Leu Pro Val Gly Leu Ile Val Gly Val Thr Ala Leu Gly
 260 265 270
 Leu Leu Ile Ile Gly Val Val Asn Cys Val Ile Met Thr Gln Val Lys
 275 280 285
 Lys Lys Pro Leu Cys Leu Gln Arg Glu Ala Lys Val Pro His Leu Pro
 290 295 300
 Ala Asp Lys Ala Arg Gly Thr Gln Gly Pro Glu Gln Gln His Leu Leu
 305 310 315 320
 Ile Thr Ala Pro Ser Ser Ser Ser Ser Leu Glu Ser Ser Ala Ser
 325 330 335
 Ala Leu Asp Arg Arg Ala Pro Thr Arg Asn Gln Pro Gln Ala Pro Gly
 340 345 350
 Val Glu Ala Ser Gly Ala Gly Glu Ala Arg Ala Ser Thr Gly Ser Ser
 355 360 365
 Asp Ser Ser Pro Gly Gly His Gly Thr Gln Val Asn Val Thr Cys Ile
 370 375 380
 Val Asn Val Cys Ser Ser Ser Asp His Ser Ser Gln Cys Ser Ser Gln
 385 390 395 400

Ala Ser Ser Thr Met Gly Asp Thr Asp Ser Ser Pro Ser Glu Ser Pro		
405	410	415
Lys Asp Glu Gln Val Pro Phe Ser Lys Glu Glu Cys Ala Phe Arg Ser		
420	425	430
Gln Leu Glu Thr Pro Glu Thr Leu Leu Gly Ser Thr Glu Glu Lys Pro		
435	440	445
Leu Pro Leu Gly Val Pro Asp Ala Gly Met Lys Pro Ser		
450	455	460

<210> 7
 <211> 159
 <212> PRT
 <213> Homo sapiens

<400> 7			
Met Ser Thr Gly Thr Asn Gly Asp Gly Val Ser Pro Ala Asn Gly Val			
1	5	10	15
Val Leu Asp Arg Ser Tyr Pro Arg Ile Val Val Met Glu Arg Val Glu			
20	25	30	
Met Pro Thr Ala Gln Pro Ala Leu Leu Ala Val Gln Lys Gln Leu Gly			
35	40	45	
Pro Pro Gln Met Cys Arg Val Ala Cys Thr Cys Ala Val Ile Asn Arg			
50	55	60	
Val Gln Lys Val Asn Cys Thr Pro Thr Ser Asn Ala Val Cys Gly Asp			
65	70	75	80
Cys Leu Pro Arg Phe Tyr Arg Lys Thr Arg Ile Gly Gly Leu Gln Asp			
85	90	95	
Gln Glu Cys Ile Pro Cys Thr Lys Gln Thr Pro Thr Ser Glu Val Gln			
100	105	110	
Cys Ala Phe Gln Leu Ser Leu Val Glu Ala Asp Ala Pro Thr Val Pro			
115	120	125	
Pro Gln Glu Ala Thr Leu Val Ala Leu Val Ser Ser Leu Leu Val Val			
130	135	140	
Phe Thr Leu Ala Phe Leu Gly Leu Phe Phe Leu Tyr Cys Lys Gln			
145	150	155	

<210> 8
 <211> 342
 <212> DNA
 <213> Homo sapiens

<220>
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 <222> (28)
 <223> n equals a,t,g, or c

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<220>
<221> misc_feature
<222> (31)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (181)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (276)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (282)
<223> n equals a,t,g, or c

<400> 8
ggacctttag gggcagtg a gctgctng ntctgggt a aagacccact gcccacccctg 60
caacccaggc ttcttcaaaa ccaacaacag cacctgccc ag ccctgccc atgggttccta 120
ctccaatggc tcagactgt a cccgctgccc tgca gggact gaa cctgctg tgggatttga 180
ntacaaatgg tggAACACGC tgcccaaaa catggaaacg accgttctca gtgggatcaa 240
cttcgagtagt a aaggcatg a caggctggg ggtggntgg gntcacat t acacagctgc 300
tggagcctca gacaatgact tcatgattct aaatctggtt gt 342

<210> 9
<211> 291
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (244)
<223> n equals a, t, g or c

<400> 9
ctcctgtgga gacgtggaaa ggttccaaag gcaaaacagtc ctatacctac atcattgagg 60
agaacactac cacgagcttc acctggccct tccagaggac cactttcat gaggcaagca 120
ggaagtacac caatgacgtt gccaagatct actccatcaa tgcaccaat gttatgaatg 180
gctggccct ctactgccc tccctgtgccc tagaaggcctc tgatgtgggc tccctctgca 240
cctnttgccc tgctggttac tatattgacc gagattcagg aacctgccc t 291

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<210> 10
 <211> 267
 <212> DNA
 <213> Homo sapiens

<220>
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 <223> n equals a,t,g, or c

<220>
 <221> misc_feature
 <222> (171)
 <223> n equals a,t,g, or c

<220>
 <221> misc_feature
 <222> (207)
 <223> n equals a,t,g, or c

<400> 10
 ccaagatcta ctccatcaat gtcaccaatg ttatgaatgg ngtggcctcc tactgccgtc 60
 cctgtgcctt agaaggcctct gatgtggctt cctcctgcac ctcttgcctt gctggtaact 120
 atattgaccg agattcagga acctgccact cctggccccc taacacaatt ntgaaagccc 180
 accagcctta tggtgtccag gcctgtntgc cctgtggtcc agggaccaag aacaacaaga 240
 tccactctct gtgtacataat gattgca 267

<210> 11
 <211> 274
 <212> DNA
 <213> Homo sapiens

<220>
 <221> misc_feature
 <222> (107)
 <223> n equals a,t,g, or c

<220>
 <221> misc_feature
 <222> (196)
 <223> n equals a,t,g, or c

<400> 11
 aaagaatcaa aaactagagt acaagtactc caagctggtg atgaatgcta ctctcaagga 60
 ctgtgacctg ccagcagctg acagctcgcc atcatggaa ggcgggntgt agaggacgac 120
 ctcatcttta ccagcaagaa gtcactctt gggaaagatca aatcatttac ctccaagagg 180
 actcctgtat gatttactc agtgccgtc aagacatcct caggaggccc agacatggac 240
 ctgtgagagg cactgctgc ctcacactgct tcct 274

<210> 12
<211> 245
<212> DNA
<213> Homo sapiens

<400> 12
ccaagccgaa aatctgttagc gaggacccgg agggggcagt gaagctgtgc cctctgggtgt 60
gaagacccac tgccccaccc tgcacccagg cttcttcaaa accaacaaca gcacccgtcca 120
gcctgtccca tatggttccct actccaaatgg ctcagactgtt acccgctgccc ctgcaggagac 180
tgaacctgtgtt gatggatgg aataccaaatgg gatggaaacacgtt ctgcacccaa acatggggaaa 240
cgacc 245

<210> 13
<211> 292
<212> DNA
<213> Homo sapiens

<220>
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<222> (5)
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<220>
<221> misc_feature
<222> (202)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (245)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (246)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (291)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (292)
<223> n equals a,t,g, or c

<400> 13
ggcanaggga atttgactca gtggccgtga agacatcctc aggaggccca gacatggacc 60
tgtgagggc actgcctgccc tcacctgcct cctcacccgg catagcacctt ttgcaaggct 120
gcggggaaattt ggggtggccaggc atccctgcaac acccactgtt gggaaatctc ttcattgtgg 180
cctttatcaga tggatggaaat tttatatagag tacccaaacc ctcctttctg 240

cttgnntcaa acctgccaaa tataccca ctttgggtt aaaaaaaaaa nn 292

<210> 14
<211> 220
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (164)
<223> n equals a, t, g or c

<400> 14
atcttcctttt ataggtccaa tgatgtgacc cagtcctgca gttctggag atcaaccacc 60
atccgcgtca ggtgcagtcc acagaaaact gtcctggaa gtttgcgtct gccaggaacg 120
tgctcagatgg gacactgtga tggctgcaac ttccacttcc tgtnngagag cgccggctgtct 180
tgcccgctct gtcagtgcc tgactaccat gctatcgta 220

<210> 15
<211> 427
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (44)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (77)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (234)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (260)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (268)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (271)
<223> n equals a,t,g, or c

<220>

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<221> misc_feature
<222> (272)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (275)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (305)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (308)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (331)
<223> n equals a,t,g, or c

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<221> misc_feature
<222> (353)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (359)
<223> n equals a,t,g, or c

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<222> (368)
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<221> misc_feature
<222> (372)
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<220>
<221> misc_feature
<222> (381)
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<220>
<221> misc_feature
<222> (388)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (398)
<223> n equals a,t,g, or c

<220>
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<221> misc_feature
<222> (400)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (407)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (427)
<223> n equals a,t,g, or c

<400> 15
aatcggcag agctcagaca atgacttcat gattctact ctgnttgc caggattag 60
acctccgcag tcggtgntgg cagacacaga gaataaagag gtggccagaa tcacattgt 120
ctttgagacc ctctgttctg tgaactgtga gctctacttc atggtgggtg tggatttcta 180
gggaccaaca cttcctgttgg aggacgtggg aaaggttcca aaggccaaac agtnccttat 240
tacctgacat gcattgaggan aggaacant nnccngagg tttcaactgg ggcctttccc 300
gaggnacnac tttttcatg gagggccaag ncaggggagt tacaacccat tgnacgttng 360
gccaaggntc tnatttccat ncaatgtnca accaatgnntn atggaanggg tggggggcc 420
ttgcttn 427

<210> 16
<211> 333
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (20)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (23)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (76)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (80)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (85)

<223> n equals a,t,g, or c
<220>
<221> misc_feature
<222> (103)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (129)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (152)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (171)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (244)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (260)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (269)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (275)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (293)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (307)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (320)
<223> n equals a,t,g, or c

<400> 16

taactctgg tgcggccagg ttnaaacctc cgcagtcggt gaatggcaga cacagagaat 60

aaagaggtgg ccagantcan atttntttt aaaaaccctct gtnctgtgaa actgtgaagc 120
tctacttgn a tgggtgggtgt gaaattctag gnaccaacac tcctgtggag nacgtggaaa 180
agg tccaa ggcaaacagt cctataccta catcattgaa ggaggaacac taccacgagg 240
ttgnacctgg gccc ttccan agggaccant tttnatgag ggcaagcagg gangtacacc 300
attgagngtt gcccaggtn tattccttca atg 333

<210> 17
<211> 70
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (60)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (66)
<223> n equals a,t,g, or c

<400> 17
ggcacaggca aagatttattt ctacacacac acggcctgcn atgccaacgg agagacacan 60

ctcatntaca 70

<210> 18
<211> 568
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (396)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (465)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (472)
<223> n equals a,t,g, or c

<220>
<221> misc_feature

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<222> (480)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (505)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (545)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (549)
<223> n equals a,t,g, or c

<400> 18
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tcacacctta tccaaacttt tgaggttcag caattggagg tggcaattgg ctttgcattt 120
taaagtattt cgggtaaagg tgaagtgaag gatttcgtc ttataatatt ctgttcggcc 180
atggcaaata ccatagttga gtatggctt caggagagt cttttacag tttactttt 240
caatgcttag gcataattttt tttagactg tgctttatg tgctttcta caaagggggtt 300
atgggtcagt ggaagaacaaa agtacacttg ataaaaacat ttcaacata cattgagcc 360
aaacagcagt taagttgtc ctaaatgaac tagcanaaaa aaaaaatgtt gttttttttt 420
gtaaggaagg ggaggttattt cctgagaatg aattttttt tttnngaaa cnggttctn 480
tccataaccc tgcttgattt ttacngggg gaccctggaa aaaaaattttt tcctccaaaa 540
ttttnaaanc cgggttggaa agggttca                                         568

<210> 19
<211> 554
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (396)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (407)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (473)
<223> n equals a,t,g, or c

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<220>
<221> misc_feature
<222> (494)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (541)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (542)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (548)
<223> n equals a,t,g, or c

<400> 19

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tcacacctat tccaaacttt tgaggttcag caattggagg tggcaattgg ctttgcattt 120
taaagtattt cgggtaaagg tgaagtgaag gattttgc tttataattt ctgttcggcc 180
atggcaataa ccatagttga gtatttgc t caggagat tttttacag ttttactttt 240
caatgctgag gcatatttct ttgagcactg tgctttatg tgcatttcta caaaggggtt 300
atggtcagt ggaagaacaaa agtacacttg ataaaaacat tttcaacata cattgagcc 360
aaacagcagt taagttgtct ctaaatgaac tagcanaaaa aaaaaangta gttttgttt 420
gtaaggaagg ggaggttattt cctgagaatg aattttttt ttttggata acngggttc 480
tctccataaa cctngcttgg attttacagg agggaccctg gaaaaaaat ttttctcca 540
nnattnnaa atcc 554

<210> 20
<211> 310
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (83)
<223> n equals a,t,g, or c

<400> 20

ctgagtatgc ctctttctat tgaaatgtca attcaatccc agcttctca ccaccgttcc 60
cctttgatc tttctcaatt gtnnnnnncc cttagctcc cacctataaca tctcatgctc 120
agagaaaaac aagttcctta gaggttgtat tctttattct ccaagaatct gtctgaaact 180

tgtagcgtta gttcctgtcc cacaactatt aagtgggtta ttaagtacat taggcagaat 240
tgcaattca tcaccagggtt ctagctctgg caaaggaggc ctgtctacag caaggat 300
tgcttttaga 310
<210> 21
<211> 546
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (317)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (340)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (351)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (389)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (398)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (428)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (429)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (433)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (452)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (468)
<223> n equals a,t,g, or c

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<220>
<221> misc_feature
<222> (483)
<223> n equals a,t,g, or c

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<222> (534)
<223> n equals a,t,g, or c

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agggtggaga tgcctactgc acagcctgccc ctcctcgac gtacaaaagc agctggggcc 240
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tgcacagctt acctctnatg ctgtctgtgg ggatgtttgn cccaagttctt naccgaaaag 360
acacggccat ggaaggctgg caggaccang aatggccntc ccgtggcaga aagccagacc 420
ccccaaachnc tgnagggtcc aatgtggccctt tnccattttg aagctttantg ggaaggcaga 480
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ntgcca 546

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tctcccgac tcctgaggtc acatgcgtgg tggggacgt aagccacgaa gaccctgagg 180
tcaagttcaa ctggtagctg gacggcggtg aggtgcataa tgccaagaca aagccgcggg 240
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agaaaacat ctccaaagcc aaagggcagc cccgagaacc acaggtgtac accctgcccc 420
catccggga tgagctgacc aagaaccagg tcagcctgac ctgcctggc aaaggcttct 480
atccaaagcga categccgtg gagtgggaga gcaatggca gccggagaac aactacaaga 540
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acaagagcag gtggcagcag gggAACGTCT tctcatgctc cgtgatgcat gaggctctgc 660
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Met Ala Glu Pro Gly His Ser His His Leu Ser Ala Arg Val Arg Gly
1 5 10 15

aga act gag agg cgc ata ccc cgg ctg tgg cgg ctg ctg ctc tgg gct 153
Arg Thr Glu Arg Arg Ile Pro Arg Leu Trp Arg Leu Leu Trp Ala
20 25 30

ggg acc gcc ttc cag gtg acc cag gga acg gga ccg gag ctt cac gcc 201
Gly Thr Ala Phe Gln Val Thr Gln Gly Thr Gly Pro Glu Leu His Ala
35 40 45

tgc aaa gag tct gag tac cac tat gag tac acg gcg tgt gac agc acg 249
Cys Lys Glu Ser Glu Tyr His Tyr Glu Tyr Thr Ala Cys Asp Ser Thr
50 55 60

ggg tcc agg tgg agg gtc gcc gtg ccg cat acc ccg ggc ctg tgc acc 297
Gly Ser Arg Trp Arg Val Ala Val Pro His Thr Pro Gly Leu Cys Thr
65 70 75 80

agc ctg cct gac ccc gtc aag ggc acc gag tgc tcc ttc tcc tgc aac Ser Leu Pro Asp Pro Val Lys Gly Thr Glu Cys Ser Phe Ser Cys Asn 85 90 95	345
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gag ggc cgc tac tcc ctc ggc aca ggc att cgg ttt gat gag tgg gat Glu Gly Arg Tyr Ser Leu Gly Thr Gly Ile Arg Phe Asp Glu Trp Asp 115 120 125	441
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gac agt gct gct gag tcc acc ggg aac tgc tcc aag tgg gtt Asp Ser Ala Ala Glu Ser Thr Gly Asn Cys Thr Ser Ser Lys Trp Val 145 150 155 160	537
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ctg atg tac gcc gtc aac ctg aag caa tct ggc acc gtt aac ttc gaa Leu Met Tyr Ala Val Asn Leu Lys Gln Ser Gly Thr Val Asn Phe Glu 180 185 190	633
tac tac tat cca gac tcc agc atc atc ttt gag ttt ttc gtt cag aat Tyr Tyr Tyr Pro Asp Ser Ser Ile Ile Phe Glu Phe Val Gln Asn 195 200 205	681
gac cag tgc cag ccc aat gca gat gac tcc agg tgg atg aag acc aca Asp Gln Cys Gln Pro Asn Ala Asp Asp Ser Arg Trp Met Lys Thr Thr 210 215 220	729
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gtc ctc tat tgg aga acc aca gcc ttc tca gta tgg acc aaa gta ccc Val Leu Tyr Trp Arg Thr Thr Ala Phe Ser Val Trp Thr Lys Val Pro 245 250 255	825
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tca gaa tgc ttc ccc tgc aaa cct ggc acg tat gca gac aag cag ggc Ser Glu Cys Phe Pro Cys Lys Pro Gly Thr Tyr Ala Asp Lys Gln Gly 275 280 285	921
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gaa act tct tgc cac cag tgt gac cct gac aaa tac tca gag aaa gga Glu Thr Ser Cys His Gln Cys Asp Pro Asp Lys Tyr Ser Glu Lys Gly 305 310 315 320	1017

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cct gct gtg gga ttt gaa tac aaa tgg tgg aac acg ctg ccc aca aac Pro Ala Val Gly Phe Glu Tyr Lys Trp Trp Asn Thr Leu Pro Thr Asn 420 425 430	1353
atg gaa acg acc gtt ctc agt ggg atc aac ttc gag tac aag ggc atg Met Glu Thr Thr Val Leu Ser Gly Ile Asn Phe Glu Tyr Lys Gly Met 435 440 445	1401
aca ggc tgg gag gtg gct ggt gat cac att tac aca gct gct gga gcc Thr Gly Trp Glu Val Ala Gly Asp His Ile Tyr Thr Ala Ala Gly Ala 450 455 460	1449
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ttc atg gtg ggt gtg aat tct agg acc aac act cct gtg gag acg tgg Phe Met Val Gly Val Asn Ser Arg Thr Asn Thr Pro Val Glu Thr Trp 515 520 525	1641
aaa ggt tcc aaa ggc aaa cag tcc tat acc tac atc att gag gag aac Lys Gly Ser Lys Gly Lys Gln Ser Tyr Thr Tyr Ile Ile Glu Glu Asn 530 535 540	1689
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gtc acc aat gtt atg aat ggc gtg gcc tcc tac tgc cgt ccc tgt gcc Val Thr Asn Val Met Asn Gly Val Ala Ser Tyr Cys Arg Pro Cys Ala 580 585 590	1833
cta gaa gcc tct gat gtg ggc tcc tcc tgc acc tct tgt cct gct ggt Leu Glu Ala Ser Asp Val Gly Ser Ser Cys Thr Ser Cys Pro Ala Gly 595 600 605	1881
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aca att ctg aaa gcc cac cag cct tat ggt gtc cag gcc tgt gtg ccc Thr Ile Leu Lys Ala His Gln Pro Tyr Gly Val Gln Ala Cys Val Pro 625 630 635 640	1977
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gat tgc acc ttc tca cgc aac act cca acc agg act ttc aac tac aac Asp Cys Thr Phe Ser Arg Asn Thr Pro Thr Arg Thr Phe Asn Tyr Asn 660 665 670	2073
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gcc ggg gtt tcc tca cag cct gtc agc ctt gct gat cga ctt att ggg Ala Gly Val Ser Ser Gln Pro Val Ser Leu Ala Asp Arg Leu Ile Gly 755 760 765	2361
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cat gct atc gtc agc agc tgc tgc gct ggg atc cag aag act act tac His Ala Ile Val Ser Ser Cys Val Ala Gly Ile Gln Lys Thr Thr Tyr 865 870 875 880	2697
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tac ttt tgg aaa aag aat caa aaa cta gag tac aag tac tcc aag ctg Tyr Phe Trp Lys Lys Asn Gln Lys Leu Glu Tyr Lys Tyr Ser Lys Leu 930 935 940	2889
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<212> PRT
<213> Homo sapiens

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Arg Thr Glu Arg Arg Ile Pro Arg Leu Trp Arg Leu Leu Leu Trp Ala
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Gly Thr Ala Phe Gln Val Thr Gln Gly Thr Gly Pro Glu Leu His Ala
35 40 45

Cys Lys Glu Ser Glu Tyr His Tyr Glu Tyr Thr Ala Cys Asp Ser Thr
50 55 60

Gly Ser Arg Trp Arg Val Ala Val Pro His Thr Pro Gly Leu Cys Thr
65 70 75 80

Ser Leu Pro Asp Pro Val Lys Gly Thr Glu Cys Ser Phe Ser Cys Asn
85 90 95

Ala Gly Glu Phe Leu Asp Met Lys Asp Gln Ser Cys Lys Pro Cys Ala
100 105 110

Glu Gly Arg Tyr Ser Leu Gly Thr Gly Ile Arg Phe Asp Glu Trp Asp
115 120 125

Glu Leu Pro His Gly Phe Ala Ser Leu Ser Ala Asn Met Glu Leu Asp
130 135 140

Asp Ser Ala Ala Glu Ser Thr Gly Asn Cys Thr Ser Ser Lys Trp Val
145 150 155 160

Pro Arg Gly Asp Tyr Ile Ala Phe Asn Thr Asp Glu Cys Thr Ala Thr
165 170 175

Leu Met Tyr Ala Val Asn Leu Lys Gln Ser Gly Thr Val Asn Phe Glu
180 185 190

Tyr Tyr Tyr Pro Asp Ser Ser Ile Ile Phe Glu Phe Val Gln Asn
195 200 205

Asp Gln Cys Gln Pro Asn Ala Asp Asp Ser Arg Trp Met Lys Thr Thr
210 215 220

Glu Lys Gly Trp Glu Phe His Ser Val Glu Leu Asn Arg Gly Asn Asn
225 230 235 240

Val Leu Tyr Trp Arg Thr Thr Ala Phe Ser Val Trp Thr Lys Val Pro
245 250 255

Lys Pro Val Leu Val Arg Asn Ile Ala Ile Thr Gly Val Ala Tyr Thr
260 265 270

Ser Glu Cys Phe Pro Cys Lys Pro Gly Thr Tyr Ala Asp Lys Gln Gly
 275 280 285
 Ser Ser Phe Cys Lys Leu Cys Pro Ala Asn Ser Tyr Ser Asn Lys Gly
 290 295 300
 Glu Thr Ser Cys His Gln Cys Asp Pro Asp Lys Tyr Ser Glu Lys Gly
 305 310 315 320
 Ser Ser Ser Cys Asn Val Arg Pro Ala Cys Thr Asp Lys Asp Tyr Phe
 325 330 335
 Tyr Thr His Thr Ala Cys Asp Ala Asn Gly Glu Thr Gln Leu Met Tyr
 340 345 350
 Lys Trp Ala Lys Pro Lys Ile Cys Ser Glu Asp Leu Glu Gly Ala Val
 355 360 365
 Lys Leu Pro Ala Ser Gly Val Lys Thr His Cys Pro Pro Cys Asn Pro
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 Gly Phe Phe Lys Thr Asn Asn Ser Thr Cys Gln Pro Cys Pro Tyr Gly
 385 390 395 400
 Ser Tyr Ser Asn Gly Ser Asp Cys Thr Arg Cys Pro Ala Gly Thr Glu
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 Pro Ala Val Gly Phe Glu Tyr Lys Trp Trp Asn Thr Leu Pro Thr Asn
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 Met Glu Thr Thr Val Leu Ser Gly Ile Asn Phe Glu Tyr Lys Gly Met
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 Thr Gly Trp Glu Val Ala Gly Asp His Ile Tyr Thr Ala Ala Gly Ala
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 Ser Asp Asn Asp Phe Met Ile Leu Thr Leu Val Val Pro Gly Phe Arg
 465 470 475 480
 Pro Pro Gln Ser Val Met Ala Asp Thr Glu Asn Lys Glu Val Ala Arg
 485 490 495
 Ile Thr Phe Val Phe Glu Thr Leu Cys Ser Val Asn Cys Glu Leu Tyr
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 Phe Met Val Gly Val Asn Ser Arg Thr Asn Thr Pro Val Glu Thr Trp
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 Lys Gly Ser Lys Gly Lys Gln Ser Tyr Thr Tyr Ile Ile Glu Glu Asn
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 545 550 555 560
 Ala Ser Arg Lys Tyr Thr Asn Asp Val Ala Lys Ile Tyr Ser Ile Asn
 565 570 575
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 580 585 590

Leu Glu Ala Ser Asp Val Gly Ser Ser Cys Thr Ser Cys Pro Ala Gly
 595 600 605
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 610 615 620
 Thr Ile Leu Lys Ala His Gln Pro Tyr Gly Val Gln Ala Cys Val Pro
 625 630 635 640
 Cys Gly Pro Gly Thr Lys Asn Asn Lys Ile His Ser Leu Cys Tyr Asn
 645 650 655
 Asp Cys Thr Phe Ser Arg Asn Thr Pro Thr Arg Thr Phe Asn Tyr Asn
 660 665 670
 Phe Ser Ala Leu Ala Asn Thr Val Thr Leu Ala Gly Gly Pro Ser Phe
 675 680 685
 Thr Ser Lys Gly Leu Lys Tyr Phe His His Phe Thr Leu Ser Leu Cys
 690 695 700
 Gly Asn Gln Gly Arg Lys Met Ser Val Cys Thr Asp Asn Val Thr Asp
 705 710 715 720
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 725 730 735
 Tyr Val Cys Gln Ala Val Ile Ile Pro Pro Glu Val Thr Gly Tyr Lys
 740 745 750
 Ala Gly Val Ser Ser Gln Pro Val Ser Leu Ala Asp Arg Leu Ile Gly
 755 760 765
 Val Thr Thr Asp Met Thr Leu Asp Gly Ile Thr Ser Pro Ala Glu Leu
 770 775 780
 Phe His Leu Glu Ser Leu Gly Ile Pro Asp Val Ile Phe Phe Tyr Arg
 785 790 795 800
 Ser Asn Asp Val Thr Gln Ser Cys Ser Ser Gly Arg Ser Thr Thr Ile
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 Arg Val Arg Cys Ser Pro Gln Lys Thr Val Pro Gly Ser Leu Leu Leu
 820 825 830
 Pro Gly Thr Cys Ser Asp Gly Thr Cys Asp Gly Cys Asn Phe His Phe
 835 840 845
 Leu Trp Glu Ser Ala Ala Ala Cys Pro Leu Cys Ser Val Ala Asp Tyr
 850 855 860
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 865 870 875 880
 Val Trp Arg Glu Pro Lys Leu Cys Ser Gly Gly Ile Ser Leu Pro Glu
 885 890 895
 Gln Arg Val Thr Ile Cys Lys Thr Ile Asp Phe Trp Leu Lys Val Gly
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Ile Ser Ala Gly Thr Cys Thr Ala Ile Leu Leu Thr Val Leu Thr Cys
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 Tyr Phe Trp Lys Lys Asn Gln Lys Leu Glu Tyr Lys Tyr Ser Lys Leu
 930 935 940
 Val Met Asn Ala Thr Leu Lys Asp Cys Asp Leu Pro Ala Ala Asp Ser
 945 950 955 960
 Cys Ala Ile Met Glu Gly Glu Asp Val Glu Asp Asp Leu Ile Phe Thr
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 <212> PRT
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 35 40 45
 Pro Gly Thr Tyr Ala Ser Arg Leu Cys Asp Ser Lys Thr Asn Thr Asn
 50 55 60
 Thr Gln Cys Thr Pro Cys Gly Ser Asp Thr Phe Thr Ser Arg Asn Asn
 65 70 75 80
 His Leu Pro Ala Cys Leu Ser Cys Asn Gly Arg Cys Asp Ser Asn Gln
 85 90 95
 Val Glu Thr Arg Ser Cys Asn Thr Thr His Asn Arg Ile Cys Asp Cys
 100 105 110
 Ala Pro Gly Tyr Tyr Cys Leu Leu Lys Gly Ser Gly Cys Lys Ala Cys
 115 120 125
 Val Ser Gln Thr Lys Cys Gly Ile Gly Tyr Gly Val Ser Gly His Thr
 130 135 140
 Pro Thr Gly Asp Val Ile Cys Ser Pro Cys Gly Leu Gly Thr Tyr Ser
 145 150 155 160
 His Thr Val Ser Ser Ala Asp Lys Cys Glu Pro Val Pro Ser Asn Thr
 165 170 175
 Phe Asn Tyr Ile Asp Val Glu Ile Asn Leu Tyr Pro Val Asn Asp Thr

180

185

190

Ser Cys Thr Arg Thr Thr Thr Gly Leu Ser Glu Ser Ile Ser Thr
 195 200 205

Ser Glu Leu Thr Ile Thr Met Asn His Lys Asp Cys Asp Pro Val Phe
 210 215 220

Arg Asp Gly Tyr Phe Ser Val Leu Asn Lys Val Ala Thr Ser Gly Phe
 225 230 235 240

Phe Thr Gly Glu Asn Arg Tyr Gln Asn Thr Ser Asn Val Cys Thr Leu
 245 250 255

Asn Phe Glu Ile Lys Cys Asn Asn Lys Asp Ser Ser Ser Lys Gln Leu
 260 265 270

Thr Lys Thr Lys Asn Asp Thr Ile Met Pro His Ser Glu Thr Val Thr
 275 280 285

Leu Val Gly Asp Cys Leu Ser Ser Val Asp Ile Tyr Ile Leu Tyr Ser
 290 295 300

Asn Thr Asn Thr Gln Asp Tyr Glu Thr Asp Thr Ile Ser Tyr His Ala
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Gly Asn Val Leu Asp Val Asp Ser His Met Pro Gly Ser Cys Asp Ile
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<210> 43

<211> 34

<212> DNA

<213> Homo sapiens

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34

<210> 44

<211> 48

<212> DNA

<213> Homo sapiens

<400> 44

gcagcatcta gaccgccatc atggctgagc ctgggcacag ccaccatc

48

<210> 45
<211> 30
<212> DNA
<213> Homo sapiens

<400> 45
gcagcatcta gagcggcact gagtcaaata

30

<210> 46
<211> 27
<212> DNA
<213> Homo sapiens

<400> 46
cgcgatcca tggctgagcc tggcac

27

<210> 47
<211> 57
<212> DNA
<213> Homo sapiens

<400> 47
cgctctatag caagcgtatg ctgggacgtc gtagatggtag cggcacttag tcaaata

57

<210> 48
<211> 342
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (28)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (31)
<223> n equals a,t,g, or c

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<222> (40)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (181)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (276)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (282)

<223> n equals a,t,g, or c

<400> 48

ggaccctttag ggggcagtga agctgctngc ntctggtgn aagacccact gcccacccctg 60
caacccaggc ttcttcaaaa ccaacaacag cacctgccag ccctgcccata atgggtccata 120
ctccaaatggc tcagactgta cccgctgccc tgcagggact gaacctgctg tgggatttga 180
ntacaaaatgg tggAACACGC tgcccacaaa catggaaacg accgttctca gtgggatcaa 240
cttcgagtagc aaggccatga caggctggg ggtggntggt gntcacattt acacagctgc 300
tggagccctca gacaatgact tcatgattct aaatctggtt gt 342

<210> 49

<211> 291

<212> DNA

<213> Homo sapiens

<220>

<221> misc_difference

<222> (244)

<223> n equals a, t, g or c

<400> 49

ctccctgtgaa gacgtggaaa gttccaaag gcaaacagtc ctataccctac atcattgagg 60
agaacactac cacgagcttc acctgggcct tccagaggac cactttcat gaggcaagca 120
ggaagtacac caatgacgtt gccaagatct actccatcaa tgcaccaat gttatgaatg 180
gcgtggcctc ctactgcccgt ccctgtgccc tagaagcctc tgcgtgggc tccctctgca 240
cctnttgctc tgcgtggattac tatattgacc gagattcagg aaccgtccac t 291

<210> 50

<211> 294

<212> DNA

<213> Homo sapiens

<220>

<221> misc_feature

<222> (75)

<223> n equals a, t, g or c

<400> 50

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tgtgacagca cgggnttcca ggtggagggt cgccgtgccg cataccccgg gcctgtgcac 120
cagccctgcct gaccccgatca agggcacccga gtgcctccatcc tccctgcaacg cggggagtt 180
tctggatatg aaggaccatg catgtaagcc atgcgctgag ggccgctact ccctcggcac 240
aggcattcgg tttgatgagt gggatgagct tgcccccattt ctttcagcc tttt 294

<210> 51
<211> 267
<212> DNA
<213> Homo sapiens

<220>
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<222> (41)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (171)
<223> n equals a,t,g, or c

<220>
<221> misc_feature
<222> (207)
<223> n equals a,t,g, or c

<400> 51
ccaagatcta ctccatcaa gtcaccaatg ttatgaatgg ngtggctcc tactgccgtc 60
cctgtgcctt agaaggctct gatgtggctt cctcctgcac ctcttgcctt gctggttact 120
atattgaccc agattcagga acctgccact cctggccccc taacacaatt ntgaaagccc 180
accaggctta tggtgtccag gcctgtntgc cctgtggtcc agggaccaag aacaacaaga 240
tccactctct gtgtacataat gattgca 267

<210> 52
<211> 274
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (107)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (196)
<223> n equals a, t, g or c

<400> 52
aaaagaatcaa aaactagagt acaagtactc caagctggtg atgaatgcta ctctcaagga 60
ctgtgacctg ccagcagctg acagctcgcc atcatggaa gcgagggtgt agaggacgac 120
ctcatcttta ccagcaagaa gtcactcttt gggaaagatca aatcatttac ctccaagagg 180
actcctgtatg gattnactc agtgccgtc aagacatctt caggaggccc agacatggac 240
ctgtgagagg cactgcctgc ctcacactgtc ttct 274

<210> 53

<211> 245
<212> DNA
<213> Homo sapiens

<400> 53
ccaagccgaa aatctgtac gaggaccttggggcagt gaagctgctg cctctgggtgt 60
gaagacccac tgcccacccct gcaacccagg cttcttcaaa accaacaaca gcacacctgcca 120
gcccgtccca tatggttctt actccaatgg ctcagactgt acccgctgccc ctgcaggac 180
tgaacctgtgttgggattt aatacacaatgt gtggAACACG ctgcccacaa acatggaaa 240
cgacc 245

<210> 54
<211> 292
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (5)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (202)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (245)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (246)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (291)
<223> n equals a, t, g or c

<220>
<221> misc_difference
<222> (292)
<223> n equals a, t, g or c

<400> 54
ggcanaggga atttgactca gtgcgcgtga agacatctc aggaggccca gacatggacc 60
tgtgagggc actgcctgccc tcaacctgttgcgttccatgcacccatgttgcac 120
ggggaaattt ggggtccacgt atccctgcaac acccaactgtt gggaaatctc ttcatgtgg 180
cccttatcaga ttgtttaattt tttatataatgatccaaacccttcattttctt 240

cttgnntcaa acctgccaaa tatacccaca ctttgttgt aaaaaaaaaa nn 292

<210> 55
<211> 220
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (164)
<223> n equals a, t, g or c

<400> 55
atcttccttt ataggtccaa tggatgtgacc cagtcctgca gttctggag atcaaccacc 60
atccgcgtca ggtgcagtcc acagaaaact gtcctggaa gtttgcgtct gccaggaaacg 120
tgctcagatg ggacctgtgtc tggctgcaac ttccacttcc tggtnnagag cgcggctgtct 180
tgcccgctat gctcagttgc tgactaccat gctatcgta 220

<210> 56
<211> 427
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (44)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (77)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (234)
<223> n equals a, t, g or c

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<222> (260)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (268)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (271)
<223> n equals a, t, g or c

<220>
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<222> (272)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (275)
<223> n equals a, t, g or c

<220>
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<222> (305)
<223> n equals a, t, g or c

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<222> (308)
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<222> (331)
<223> n equals a, t, g or c

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<222> (355)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (359)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (368)
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<220>
<221> misc_feature
<222> (372)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (381)
<223> n equals a, t, g or c

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<222> (388)
<223> n equals a, t, g or c

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<221> misc_feature
<222> (398)
<223> n equals a, t, g or c

<220>
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<222> (400)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (407)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (427)
<223> n equals a, t, g or c

<400> 56
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acccctcgacat tcgggtgtgg cagacacaga gaataaaagag gtggccagaa tcacattttgt 120
ctttgagacc ctctgttctg tgaactgtga gctctacttc atgggtgggtg tggattctca 180
gggaccaaca cttccctgtgg aggacgtggg aaagggttcca aagggcacaa agtncccttat 240
tacctgacat gcattgaggn aggaacantt nnccnggagg tttcaactgg ggcctttccc 300
gagggnacnac tttttcatg gagggccaag ncaggggagt tacaacccat tgnacgttng 360
gccaaggntc tnatttccat ncaatgnca accaatgnnt atggaanggg tggtggggcc 420
ttgcttn 427

<210> 57
<211> 367
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (5)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (55)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (66)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (67)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (116)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (123)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (275)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (315)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (340)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (348)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (356)
<223> n equals a, t, g or c

<400> 57
ggcanaggct gagtccaccc ggaactgtac ttctgtccaag tgggttcccc ggggngactt 60
gatcgnntcc aacacggacg aatgcacagc cacactgtat tacggcgatca acctgnaagc 120
agnctggtca ccgttgaact tcggaatact actatccaga ctccatcatc atctttgaag 180
tttttcgttc agaatgacca gtgcagccc aatgcagatg actccaggtg gatgaagacc 240
acagagaaaag gatggaaatt ccacagtgtg agctnaaatc gaggcaataa tgtccgttat 300
tgggggaaacc acagncttct tcaatgtatgg gaccaaagtn acccaagnct gtgctngtg 360
gaggaaa 367

<210> 58
<211> 333
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (20)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (23)

<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (76)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (80)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (85)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (103)
<223> n equals a, t, g or c

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<222> (129)
<223> n equals a, t, g or c

<220>
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<222> (152)
<223> n equals a, t, g or c

<220>
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<222> (171)
<223> n equals a, t, g or c

<220>
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<222> (244)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (260)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (269)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (275)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (293)

<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (307)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (320)
<223> n equals a, t, g or c

<400> 58
taactctgggt tggccagggn tttnaacctc cgccatcggtt gaatggcaga cacagagaat 60
aaagaggtgg ccagantcan atttntttt aaaaacccctt gtnctgtgaa actgtgaagc 120
tctacttgna tggtggtgtt gaaattctag gnaccaacac tcctgtggag nacgtggaaa 180
aggttccaa ggcaaacagt cctataccta catcattgaa ggaggaacac taccacgagg 240
ttgnacctgg gcccattccan agggaccant tttnatgag ggcaagcagg gangtacacc 300
attgagngtt gcccaggtt tattcattca atg 333

<210> 59
<211> 70
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (40)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (60)
<223> n equals a, t, g or c

<220>
<221> misc_feature
<222> (66)
<223> n equals a, t, g or c

<400> 59
ggcacaggca aagatttattt ctacacacac acggcctgcn atgccaacgg agagacacan 60
ctcatntaca 70

<210> 60
<211> 3152
<212> DNA
<213> Homo sapiens

<400> 60
ggatggtagt cggagttccca tttggggagca agagccatct actcgccgtt taccggcctt 60
cccaccatggg atttgcaga aatgtgtac tgggaccaat ggggacgggtg tgcacccgtc 120
caacgggttg gtcctggaca ggagctatcc aaggattgtt gttatggaga ggggtggagat 180

gcctactggc acagctgcc ctccctcgac tacaaaagca gctggggcca ccacaatgt 240
 cagagtgc acacccatgtc tgcataatgtc tgcatcaatgttgcaga aggtcaactg cacacatgtc 300
 tctaatgtc tctgtggggc ctgttgcac aggttacca gaaaacacag cattggggc 360
 ctgcaggaa aagactgtc ctgcaggaaac aagcagacag ccacccatgtc ggttcaatgt 420
 gccttcaggat tagactgttgcac ggaggcagat gcacccacag tgcccttca ggaggccaca 480
 cttgttgac tggtgacat cttgttgcac cttgttgcac cttgttgcac tggtttacc tgcccttcc 540
 ttctctact gcaaggcgtt cttcaacaga cattggcaggc gtggagggtt gtcgcgtt 600
 gagggctgata aacacgaa ggaggaaatct ctcttccccc tgccacccag caaggagacc 660
 agtgcgtgat cccaaatgtc ttggccccc ggcagccctt cccagttgtt ctcttcggac 720
 tctgttccat tccatcacaac gcaacggggc cctgaaatgt gatgtccaca agagctataa 780
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 ggactgtatc ggacatgtt ttggccatctt gttgttgcac ttggggacatcattccat 900
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 aacttgtaca gtttttttttgcac ttggggccatc ttttttttttgcac 1680
 gaatgtgcac ttggggccatc gtttttttttgcac gtttttttttgcac 1740
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 aggttttttttgcac ttggggccatc gtttttttttgcac gtttttttttgcac 1920
 aagcagccgtt gggcccccacatgttgcac ttggggccatc gtttttttttgcac 1980
 gscyctggat ttggggccatc ttggggccatc gtttttttttgcac 2040
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 tccagacagg ggttggatgttgcac ttggggccatc gtttttttttgcac 2160
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 aaggggggatgttgcac ttggggccatc gtttttttttgcac gtttttttttgcac 2760
 tataatcccaat ttttttttttgcac gtttttttttgcac gtttttttttgcac 2820
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 ttttttttttgcac ttggggccatc gtttttttttgcac gtttttttttgcac 3060
 tagataactgg cggggatgttgcac ttggggccatc gtttttttttgcac gtttttttttgcac 3120
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<210> 61
 <211> 231
 <212> PRT
 <213> Homo sapiens

<400> 61
 Met Asp Cys Gln Glu Asn Glu Tyr Trp Asp Gln Trp Gly Arg Cys Val
 1 5 10 15

Thr Cys Gln Arg Cys Gly Pro Gly Gln Glu Leu Ser Lys Asp Cys Gly
20 25 30

Tyr Gly Glu Gly Gly Asp Ala Tyr Trp His Ser Leu Pro Ser Ser Gln
35 40 45

Tyr Lys Ser Ser Trp Gly His His Lys Cys Gln Ser Cys Ile Thr Cys
50 55 60

Ala Val Ile Asn Arg Val Gln Lys Val Asn Cys Thr Pro Thr Ser Asn
65 70 75 80

Ala Val Cys Gly Asp Cys Leu Pro Arg Phe Tyr Arg Lys Thr Arg Ile
85 90 95

Gly Gly Leu Gln Asp Gln Glu Cys Ile Pro Cys Thr Lys Gln Thr Pro
100 105 110

Thr Ser Glu Val Gln Cys Ala Phe Gln Leu Ser Leu Val Glu Ala Asp
115 120 125

Ala Pro Thr Val Pro Pro Gln Glu Ala Thr Leu Val Ala Leu Val Ser
130 135 140

Ser Leu Leu Val Val Phe Thr Leu Ala Phe Leu Gly Leu Phe Phe Leu
145 150 155 160

Tyr Cys Lys Gln Phe Phe Asn Arg His Cys Gln Arg Gly Gly Leu Leu
165 170 175

Gln Phe Glu Ala Asp Lys Thr Ala Lys Glu Glu Ser Leu Phe Pro Val
180 185 190

Pro Pro Ser Lys Glu Thr Ser Ala Glu Ser Gln Val Ser Trp Ala Pro
195 200 205

Gly Ser Leu Ala Gln Leu Phe Ser Leu Asp Ser Val Pro Ile Pro Gln
210 215 220

Gln Gln Gln Gly Pro Glu Met
225 230